

## CLAIMS

What is claimed is:

1. A transport for a rocket engine, the transport comprising:
  - a trailer having a long axis;
  - a tail support member coupled to the trailer and having a notch configured to receive a pin affixed to the rocket engine; and
  - a chock assembly comprising a chock pivotably coupled to a trolley, wherein the chock is configured to accept the rocket engine and to pivot about a rotation axis that is substantially perpendicular to the long axis of the trailer.
2. The transport of claim 1 wherein the chock assembly further comprises a bearing assembly pivotably coupling the chock to the trolley.
3. The transport of claim 2 wherein the chock assembly further comprises a cradle assembly comprising a support bracket coupled to the chock.
4. The transport of claim 3 wherein the support bracket comprises a trunnion configured to cooperate with the bearing assembly to thereby allow the chock to pivot with respect to the trolley.
5. The transport of claim 4 wherein the chock assembly further comprising:
  - a second bearing assembly; and
  - a second cradle assembly coupled to the chock and having a second trunnion configured to interface with the second bearing assembly.
6. The transport of claim 5 further comprising a shaft interconnecting the first and second cradle assemblies.

7. A transport for a rocket engine, the transport comprising:
  - a trailer having a track running parallel to a longitudinal axis of the trailer;
  - a tail support member coupled to the trailer having a notch configured to rotably receive a pin affixed to the rocket engine; and
  - a chock assembly comprising a chock, a trolley, a pair of bearing assemblies rotably coupling the chock to the trolley and a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly, wherein the chock is configured to accept the rocket engine and to pivot on the trunnion about a rotation axis that is substantially perpendicular to the longitudinal axis of the trailer.
8. A chock assembly for transporting a rocket engine on a transport having a longitudinal axis, the chock comprising:
  - a trolley portion configured to interact with the transport for the rocket engine;
  - a chock having a curved portion configured to receive the rocket engine; and
  - a hinge portion configured to pivotably couple the chock to the trolley such that the chock is free to rotate about an axis that is substantially perpendicular to the longitudinal axis of the rocket engine.
9. The chock assembly of claim 8 wherein the trolley portion is further configured to interact with the transport to move along the longitudinal axis of the transport during elevation of the rocket engine.
10. The chock assembly of claim 8 wherein the hinge portion comprises a bearing assembly rotably coupling the chock to the trolley.
11. The chock assembly of claim 10 further comprising a cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly.

12. The chock assembly of claim 11 further comprising:
  - a second bearing assembly;
  - a second cradle assembly coupled to the chock and having a second trunnion configured to interface with the second bearing assembly; and
  - a shaft interconnecting the first and second cradle assemblies.
13. A chock assembly for supporting a rocket engine on a transport having a longitudinal axis, the chock comprising:
  - a trolley portion configured to mate with the transport and to interact with a transport to move along the longitudinal axis of the transport during elevation of the rocket engine;
  - a chock having a curved portion configured to receive the rocket engine; and
  - a hinge portion having a bearing assembly configured to pivotably couple the chock to the trolley such that the chock rotates about a pivot point on the trolley about an axis that is substantially perpendicular to the longitudinal axis of the rocket engine.
14. The chock assembly of claim 13 further comprising a cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly.
15. A transport for an object, the transport comprising:
  - a trailer having a longitudinal axis;
  - a tail support member coupled to the trailer having a notch configured to receive a pin attached to the object; and
  - a chock assembly comprising a chock and a trolley, wherein the chock is configured to accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis of the trailer.

16. A transport for an object, the transport comprising:
- a trailer having a track running parallel to a longitudinal axis of the trailer;
  - a tail support member coupled to the trailer and having a notch configured to rotably receive a pin affixed to the object; and
  - a chock assembly comprising a chock, a trolley, a pair of bearing assemblies rotably coupling the chock to the trolley and a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly, wherein the chock is configured to accept the object and to pivot about a rotation axis that is substantially perpendicular to the longitudinal axis of the trailer.
17. A chock assembly for transporting an object having a longitudinal axis, the chock comprising:
- a trolley portion configured to mate with a transport for the object and to interact with a transport to move laterally along the longitudinal axis of the object;
  - a chock having a support portion configured to receive the object; and
  - a hinge portion having a bearing assembly configured to pivotably couple the chock to the trolley such that the chock rotates about a pivot point on the trolley about an axis that is substantially perpendicular to the longitudinal axis of the object.
18. A method of elevating a rocket engine to a substantially vertical orientation from a transport having a chock and a tail support member, the method comprising the steps of:
- lifting a forward end of the rocket engine;
  - pivoting the rocket engine in the chock to maintain intimate contact between the chock and the rocket engine until a pin coupled to the rocket engine engages the tail support member; and
  - rotating the rocket engine about the pin to clear the rocket engine away from the chock.

19. The method of claim 18 further comprising the step of moving the chock along a long axis of the transport to move the chock clear of the rocket engine during the rotating step.
20. The method of claim 18 further comprising the step of moving a tail support member of the transport along a long axis of the transport during the rotating step.
21. A transport for a rocket engine having a forward end and a tail end, the transport comprising:
  - means for supporting the rocket engine above a trailer;
  - means for allowing the rocket engine to rotate about a pin coupled to the tail end of the rocket engine in response to lifting of the forward end of the rocket engine; and
  - means for pivoting the support means to thereby maintain intimate contact between the support means and the rocket engine while the rocket engine rotates away from the support means.